

AMENDMENT TO THE SPECIFICATION

Specification Correction #1

Please replace the following paragraph on page 8 line 1 with the following:

The system 10 can use an optimization schema based on mathematical cross correlations of sequential frames to determine movement. Preferably the optimization schema is deterministic and finite rather than convergent and potentially infinite. The chip 16 analyzes successive states of the array, at intervals from about 1/6000th of a second to about 1/1200th of a second, to determine whether a significant difference in the values detected by elements of the array 18 exists. If there is a significant change, the system invokes an optimization schema as follows. Fractions of pixels can be ignored or rounded. If the image was perfectly random from frame to frame, the system would generate random numbers from the set {-7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7} independently in the X and Y channels. If there is no movement, then the chip 16 can output nothing, and can so indicate to processor 20. If a significant change has occurred, then the chip 16 determines two values indicative of the change. These two values represent the magnitude and direction of the changes in the two dimensions of the array 18, e.g., x and y. For example, if the array 18 is a 16 by 16 array, then the chip preferably can output two values each ranging between -7 and +7, the number indicating the magnitude of the change and the sign (+/-) indicating the direction. This processing preferably occurs on the chip 16 so that a host computer 20 is spared the notorious and computationally intense problem of image recognition. The chip 16 is preferably silent when there is no change and when movement occurs data is reported in standard USB format at 1200 times per second or more. The technology is precise and high-speed, making it well-suited for monitoring eye motion. In the case of computer mice, the data are reported as a rapid series of integer up-down, left-right data that is processed to give the sensation of fluid, continuous motion of the mouse pointer on the user's monitor.

Specification Correction #2

As for the second specification correction required by the Examiner, the Applicant has amended the drawing to reflect the numeral 40 and thus the Applicant believes that this specification correction is now moot.